- Search History will be lost after eight hours of inactivity.
- Search numbers may not be continuous; all searches are represented.
- To save search indefinitely, click query # and select Save in My NCBI.
- To combine searches use #search, e.g., #2 AND #3 or click query # for more options.

| Search | Most Recent Queries | Time | Result |
|---|---|---|---|
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| #14 | Search **electrical cell cycle metaphase** | 10:51:20 | 22 |
| #13 | Search **electrical cell cycle** | 10:46:18 | 480 |
| #12 | Search **synchronize voltage** | 10:45:55 | 38 |
| #11 | Search **synchronize metaphase voltage** | 10:45:37 | 0 |
| #8 | Search **gsk3 apoptosis** | 05:58:09 | 44 |
| #7 | Search **gsk3 angiogenesis** | 05:56:57 | 0 |
| #4 | Search **gsk3b** | 05:56:47 | 8 |
| #3 | Search **gsk3** | 05:54:56 | 388 |
| #1 | Search **gsk3 endothelial** | 05:54:13 | 4 |

Clear History

cell became confluent, it was treated with a 0.05-0.53 M trypsin EDTA solution for 5 minutes to extricate it from the cell, and it was diluted with 0.4 ml HBS buffer solution and electrical stimulation was applied.

The electrical stimulation was applied under conditions of a voltage of 266 V, a condenser value of 975 uF, and a resistance value of infinity, for 20 msec. The embryonic stem cell was placed on ice for 10 minutes immediately after electrical stimulation, and then seeded on a feeder cell in a dish with a diameter of 60 mm to culture.

1-2. Synchronous culture of embryonic stem cell to metaphase stage of cell division

The embryo stem cells were initially cultured with feeder cells after applying electrical stimulation, and 3 days after initial culture they were cultured in a culture liquid to which nocodazole (0.4 ug/ml) was added, for 2-4 hours. Cells in the metaphase stage lose their adhesive property and rise up in the culture liquid. Therefore, the upper part of the culture liquid was recovered and centrifuged at 1000 rpm for 5 minutes to obtain embryonic stem cells of the metaphase stage.

1-3. Nuclear transfer and artificial culture

To a female B6CBF1(C57BL/6 x CBA) mouse, PMSG (pregnant mare serum gonadotropin) and hCG (human chorionic gonadotropin) were respectively administrated with an interval of 48

(Table 1)

| | No. of nuclear transferred embryos cultured | No. of blastocysts transferred | No. pregnants / no. of recipients (%) | No. of implantation sites-(%) | No. of live pups(%) |
|---|---|---|---|---|---|
| Comparative Example 1 | 320 | 148(46.3) | 5/12(41.7) | 24(16.2) | 0(0) |
| Example 1 | 245 | 110(44.9) | 6/9(66.7) | 57(51.9) | 3(2.7) |

As can be seen from the Table 1, Example 1 wherein electrical stimulation was applied shows higher implantation and productivity rates than Comparative Example 1.

(2) Examination of productivity according to differentiation of embryonic stem cell

In order to examine productivity according to differentiation of an embryonic stem cell used as a donor cell, no. of implantation sites, implantation rate, and no. of live pups of the reconstituted eggs according to Example 3 and Comparative Example 2 were measured and results shown in the following Table 2.

(Table 2)

| | No. of nuclear transferred embryos cultured | No. of blastocysts transferred (%) | No. of implantation sites (%) | No. of live pups (%) |
|---|---|---|---|---|
| Comparative Example 2 | 55 | 37(67) | 13(24) | 0(0) |
| Example 3 | 70 | 51(73) | 39(56) | 3(5.9) |

As seen from Table 2, Example 3 using an undifferentiated embryonic stem cell as a donor cell shows a high blastocyst stage